

DESCRIPTIONS AND RECORDS OF CALIFORNIAN  
MUTILLIDÆ\*

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Commander C. H. Dammers has sent me a series of Mutillidæ most of which were collected by himself in Riverside county, California. Three new species and one species known heretofore only from the holotype were represented in the material. The descriptions of the new species and the most important of the records follow:

Genus *DASYMUTILLA* Ashmead.Group *FULVOHIRTA* Mickel.*Dasymutilla albiceris* Mickel, n. sp.

Female. Black, except the front, vertex, dorsum of thorax, second tergite exclusive of antero-lateral areas and narrow anterior margin, tergites three to five, anterior margin of pygidial tergite, and lateral portions of distal fringes of sternites two to four, all with long, erect and appressed, white pubescence slightly tinged with yellow; head narrower than the thorax; antennal scrobes carinate above; thorax as broad as long; scutellar scale absent; first abdominal segment short, subsessile; pygidial area very large, strongly convex, granulate. Length, 14 mm.

Head black, clothed with sparse, long, black pubescence, except the front and vertex with long, erect and appressed, white pubescence slightly tinged with yellow; mandibles slender, edentate at the tip and with an indistinct tooth within, remote from the tip; clypeus with long, erect, dense black hairs borne on the sinuate clypeal ridge; antennal tubercles contiguous; scape obscurely punctured and black-pubescent; first segment of flagellum a little less than twice as long as the second; antennal scrobes carinate above, the carina extending two-thirds of the distance from the antennal tubercles to the inner eye margins; front and vertex densely, confluent punctate; genæ moderately punctate, not nearly as coarsely punctate as the front and vertex; eyes moderate in size; relative widths of head and thorax, 5.5:7.4.

Thorax black, clothed with long, sparse, black pubescence, except the dorsum of thorax with long, erect and appressed, white pubescence slightly tinged with yellow; thorax as broad as long; humeral angles subangulate, not prominent; scutellar scale entirely

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absent; propleuræ with large, more or less separated punctures, the anterior margin defined by a carina; mesopleuræ elevated along the dorso-ventral midline, strongly, closely punctured on the elevated area, the punctures separated on the anterior and posterior areas of the mesopleuræ; metapleuræ glabrous, with scattered punctures, the latter larger and closer ventrally; posterior face of propodeum with very large, close punctures, appearing almost reticulate, this sculpturing extending on to sides of propodeum, the anterior area of the latter glabrous and with a few scattered punctures.

Abdomen black, with sparse, long, black pubescence except all the tergites excluding the first, the large antero-lateral areas of the second, narrow anterior margin of the second, and the lateral thirds of the distal fringes of sternites two to four, with long, appressed and erect, white pubescence slightly tinged with yellow; first segment short, subsessile, clothed with long, erect, black pubescence; second tergite coarsely, confluent punctate except the large, antero-lateral areas with moderate, mostly separated punctures; felt lines black; sculpturing of tergites three to five obscured by the pubescence; pygidial area very large, strongly convex and finely granulate; first sternite with a median, longitudinal carina on the anterior two-thirds; second sternite with moderately large, more or less confluent punctures; sculpturing of sternites three to five obscured by the pubescence; posterior margin of last sternite broadly and deeply emarginate thus forming a rounded notch in which lies the sting, the lateral angles formed by the emargination very prominent.

Legs entirely black, thickly clothed with very long, erect, black hairs; calcaria black.

Holotype. Female, Valle de la Trinidad, Lower California, July, 1927 (L. M. Huey), in University of Minnesota collection. Paratypes. Two females, same data.

Related to *fulvohirta* Cresson in having the same form of head, thorax, first abdominal segment and last abdominal sternite; differs in its larger size, white pubescence not only above but on the fringes of the sternites laterally and in the sculpture of the pygidium. Superficially it resembles *sackenii* but differs greatly in the form of thorax from that species.

#### GROUP SPARSA Mickel

#### *Dasymutilla atricauda* Mickel, n. sp.

Female. Black, dorsum of thorax, second abdominal tergite except anterior and lateral margins, and third tergite, except lateral margins, clothed with thick, erect and recumbent orange-

yellow pubescence; head approximately the width of the thorax; scutellar scale absent; pygidial area finely, longitudinally rugose. Length, 10 mm.

Head black, clothed with black pubescence, except the vertex with a few scattered, erect, orange-yellow hairs; mandibles slender edentate at the apex and with a small tooth within remote from the apex; antennal tubercles approximate but slightly separated; scape obscurely punctured above and sparsely black pubescent; first segment of flagellum one and one-half times as long as the second; antenal scrobes not carinate above; front and vertex with moderate, shallow, more or less separated punctures; genæ much less coarsely punctured than the front and vertex; eyes moderate in size, the distance between the posterior margin of the eyes and the posterolateral angles approximately equal to one-half the greatest diameter of the eyes; relative widths of head and thorax, 4.0:4.1.

Thorax black, clothed with black pubescence, except the dorsum with thick, erect and recumbent, orange-yellow pubescence; thorax narrower posteriorly than anteriorly, the relative widths at humeral angles, at widest point, and at posterior margin of dorsum, 3.7:4.1:2.8; pronotal and mesonotal areas densely, confluent punctate, becoming reticulate on the dorsum and posterior face of propodeum; propleura with scattered, weak punctures, the anterior margin defined by a distinct carina; mesopleuræ closely punctate medially along the dorso-ventral line, anteriorly and posteriorly with scattered small punctures; metapleuræ closely punctate ventrally; sides of propodeum obscurely reticulate and with a few scattered punctures anteriorly, the posterior half distinctly reticulate.

Abdomen black, clothed with black pubescence except the dorsum of the second tergite exclusive of the anterior and lateral margins, the third tergite exclusive of the lateral margins, with thick, erect and recumbent, orange-yellow pubescence; fourth tergite also with a few, erect, orange-yellow hairs medially; first segment short, nodose, densely, deeply punctate; second tergite with dense, confluent punctures, the lateral and anterior margins less coarsely punctate; tergites three to five with small, distinct punctures; pygidium finely, longitudinally rugose on a granulate ground; first sternite with a median, longitudinal carina, the latter in profile emarginate medially; second sternite with moderate punctures more or less separated.

Legs black, clothed with black pubescence; calcaria black.

Holotype. Female, Blythe, California, October 16, 1934 (C. Dammers), in University of Minnesota collection. Paratypes. Three females, Blythe, California, October 16, 1934 (C. Dammers).

Related to *stevensi* Mickel but differs from that species in

having the antennal scrobes not carinate above, much less orange-yellow pubescence on the head, the orange-yellow pubescence on the thorax and abdomen thicker and more erect, the black pubescence of the terminal abdominal tergites, and the less coarse sculpture of the pygidium. Superficially it resembles *arenivaga* but differs distinctly from that species and its relatives by the smaller eyes, the antennal scrobes not carinate, the absence of the scutellar scale and other characters.

#### GROUP OCCIDENTALIS Mickel

##### *Dasymutilla mimula* Mickel

1928. *Dasymutilla mimula* Mickel, Bull. 143, U. S. National Museum, p. 255, pl. 4, fig. 26, male.

Ten males of this species were collected at Blythe, California, July 30, 1935 by Mr. C. M. Dammers. Heretofore the species has been known only from the holotype which bears a locality label "California."

#### GROUP OBSCURA Mickel

##### DASYMUTILLA HELIOPHILA (Cockerell)

1900. *Sphærophthalma heliophila* Cockerell, Entomologist, vol. 33, p. 65, female.

Three females of this attractive species were taken by Mr. Dammers at Blythe, California, October 16, 1934.

##### *Dasymutilla dammersi* Mickel, n. sp.

Female. Ferruginous; head clothed with long, appressed, pale glittering pubescence, dense on the front, vertex and behind the eyes, the posterior half of the vertex with long, erect, thick, pale glittering hairs, the latter forming a transverse, conspicuous tuft; dorsum of thorax clothed with thick, appressed, pale glittering pubescence; second tergite with a pair of yellow, parenthesis-shaped marks surrounding an anterior black pubescent spot, the marks twice as broad posteriorly as anteriorly and approaching one another posteriorly on the midline; antennal scrobes with a moderate carina above; postero-lateral angles of head rounded, not at all carinate; pygidium granular. Length, 8 mm.

Head ferruginous, clothed with pubescence as described above; mandibles long, slender, edentate, and with a small tooth within, remote from the apex; clypeus divided by a transverse, sinuate



carina; antennal tubercles approximate; scape obscurely punctate, clothed with sparse, pale glittering hairs; first segment of flagellum one and one-half times as long as the second; antennal scrobes with a moderate, distinct carina above; puncturation concealed by the pubescence; head slightly broader than the thorax, relative widths, 3.6:3.2.

Thorax ferruginous, pyriform, clothed with pale, glittering pubescence, sparse on the pleural areas, thick and appressed on the dorsum, and dorsal and posterior faces of propodeum; humeral angles subangulate, not prominent; thorax much narrower posteriorly than anteriorly; scutellar scale absent; dorsum with dense, shallow, confluent punctures; dorsal and posterior faces of propodeum shallowly reticulate; propleuræ defined anteriorly by a carina, shagreened, without distinct punctures; mesopleuræ anteriorly, finely punctate, posteriorly coarsely, shallowly punctate; metapleuræ and sides of propodeum shagreened.

Abdomen ferruginous, the second tergite with yellow integumental markings as described above; first segment strongly nodose; first tergite with a median, elongate spot of dense, appressed, pale glittering pubescence extending to the posterior margin; second tergite with large, separated punctures, sparse anteriorly, close posteriorly, except those beneath the anterior black-pubescent spot, contiguous; posterior half of lateral margins and lateral sixths of posterior margin of second tergite with dense, appressed, pale glittering pubescence, the remainder of the posterior margin with a band of black pubescence, slightly broader medially than laterally; third tergite with a median and lateral spots of pale glittering pubescence separated by spots of fuscous pubescence, the latter spots not conspicuous; fourth tergite clothed with pale glittering pubescence, thickest medially; fifth tergite with small, lateral spots of blackish pubescence, the remainder with pale glittering pubescence, thickest medially; pygidial tergite laterally with blackish pubescence; pygidium granulate; first sternite with a low, blunt, longitudinal carina; second sternite with large, sparse punctures; tergites two to four, each with a thin, distal fringe of pale glittering pubescence; remaining sternites with thin blackish pubescence.

Legs ferruginous; apices of middle and hind femora squarely truncate, the apices expanded each side, the expanded, truncated areas sulcate; calcaria pale.

Holotype. Female, Palm Springs, California, August 9, 1934 (C. M. Dammers), in University of Minnesota collection. Paratypes. Female, Palm Springs, California, July 20, 1934 (C. M. Dammers); female, Palm Springs, California, August 28, 1934 (C. M. Dammers).

This beautiful and striking species is readily recognized by

the dense, erect, pale pubescence on the posterior part of the head forming a conspicuous tuft. It is apparently most closely related to *heliophila* (Cockerell) since the antennal scrobes are carinate and the postero-lateral angles of the head are not carinate. The thick pale pubescence on the dorsum of the thorax and the yellow, integumental markings of the second tergite are also characteristic. One paratype measures 9 mm. in length, the other 11 mm.

I take pleasure in dedicating this striking species to Mr. C. M. Dammers who has collected some very interesting Mutillid material in Southern California.

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#### A BERMUDA GRASS DIASPINE SCALE NEW TO CALIFORNIA

Specimens of the Bermuda grass Odonaspis, *Odonaspis ruthæ* Kot., collected at Riverside, California, have been in the University of California Citrus Experiment Station collection since 1924. The specimens were collected by Mr. J. C. Chamberlin on August 10, 1924, underground on the stems of Bermuda grass, *Cynodon dactylon*. Apparently the scale does not attack the roots of this grass but confines its feeding to the stem only. Since 1924 specimens of this species of scale have been sent to the Experiment Station for identification, thus it is apparently quite generally spread throughout southern California.

This scale insect was first described by Kotinsky in 1915 from specimens taken on Bermuda grass in Hawaii. It appears that Bermuda grass is the only grass in Hawaii that is suitable for the lawn, and is the only grass used for that purpose. It is also well adapted for grazing purposes, especially on the low lands, hence the insect's destructive operation is of some economic importance.

This scale is similar to *Odonaspis graminis* Bremner (the root scale of California), but may be distinguished from it by the presence of circumgenital gland openings which are absent in the latter species. It most closely resembles a species described from lower California; namely, *Odonaspis litorosa* Ferris, from which it differs chiefly by the presence of only a single pair of paraphyses, whereas *O. litorosa* possesses a second pair.

*Odonaspis ruthæ* Kot. is known to occur in California, Louisiana, Ceylon, Florida, and Hawaii.—Howard L. McKenzie.